

Research and Cooperative Grants Application Booklet 2004

West Virginia Wildlife Diversity Program
Wildlife Resources Section, WVDNR

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Program Changes

- All proposals must be postmarked no later than **October 1**.
- Payment will be made upon delivery of services or products. If circumstances warrant alternative funding methods, payment schedule may be negotiable.
- Funding recipients will be sent instructions outlining specific information and baseline data that must be included in the final report.
- The final report will be submitted as both hard copy and electronically along with any GIS coverage, database, or spreadsheet constructed as part of the project.

Quick Checklist

- _____ All proposals must be postmarked no later than October 1.
- _____ Ensure that the proposal is properly categorized as either a Research or a Cooperative Project.
- _____ Consider a project that has been listed in the booklet as a topic of priority.
- _____ Proposals must be completed using the forms provided in the booklet, and submitted in the format outline described in the guidelines.
- _____ When necessary, obtain site clearances for the project by contacting the appropriate authority and submit a letter as documentation.
- _____ Submit two duplicate copies of the proposal.
- _____ An electronic version of the application booklet is available. Contact Joy Cutright by e-mail: jcutright@dnr.state.wv.us.

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WEST VIRGINIA WILDLIFE DIVERSITY RESEARCH/COOPERATIVE PROJECTS PROGRAM

The diversity of life forms, so numerous that we have yet to identify most of them, is the greatest wonder of this planet. (Edward O. Wilson, ed., Biodiversity 1988)

INTRODUCTION

West Virginia has a rich biological heritage, with approximately 2300 native plant species, 500 vertebrates, and thousands of invertebrate species. All of these plants and invertebrates, and 87% of the vertebrate species are classified as “nongame” and are the responsibility of the Wildlife Diversity Program (**WDP**). This accounts for approximately 90% of the state’s wildlife and botanical resources! Nongame creatures do not serve man a direct use as they are not typically taken for sport, fur, or food, but indirectly function in their individual roles within large complex biological systems, upon which we are completely dependent. Declining biological diversity is a global-wide trend, and West Virginia is no exception. Fifteen animal species and five plant species occurring in the state have been classified as either federally threatened or endangered including the bald eagle and running buffalo clover. There are many other species whose status is “of concern,” whose distribution is unknown, and/or on which little life history work has been performed. Consequently, there is a great need to increase the database of information on nongame species.

The Research and Cooperative Projects Program provides a funding opportunity for outside individuals and/or institutions to participate in the ongoing process of data collection, conservation and education of the public about nongame issues. The program works in conjunction with the U.S. Forest Service, U.S. Fish and Wildlife Service, National Park Service and private landowners which greatly expands the kinds of projects that can be undertaken.

Research grants are awarded for projects involving the scientific study of nongame species. Cooperative project grants are given in the areas of education, community-oriented conservation projects, species protection and habitat management. The guidelines in this booklet have been developed to assist applicants in the preparation of their proposals.

The Goals and Objectives of the **WDP** provide direction for the research and cooperative projects and are as follows:

Program Goal

To increase our knowledge of the state's natural diversity so that viable populations of animals and plants, as well as plant communities, can be conserved and to promote the educational, recreational and economic opportunities derived from these resources.

Program Objectives

1. Obtain baseline information on the composition and distribution of the state's nongame wildlife and botanical resources.
2. Maintain a complete and accurate statewide database of rare species and biological communities.
3. Monitor, manage and conserve the state's nongame wildlife and botanical resources and their habitats and provide effective stewardship to ensure continued natural diversity.
4. Ensure the protection and recovery of species that are federally listed.
5. Promote opportunities for educational, recreational and economic use of the state's nongame wildlife and botanical resources.

WDP RESEARCH AND COOPERATIVE PROJECTS PROGRAM

The Wildlife Diversity Citizens Advisory Council aids in directing the Research and Cooperative Projects Program. The Council, appointed by the Governor, consists of scientists, resource managers, educators, sportsmen and women, and environmentalists. The Council provides technical assistance and other means of valuable feedback in assessing project proposals.

Acceptable proposals are awarded grant monies on a contract basis. The terms of the agreements are such that the contracted projects will involve a legal obligation for final products that include carefully prepared final reports. **Payment will be made upon delivery of services or products. If circumstances warrant alternative funding methods, payment schedule may be negotiable.**

SUBMISSION OF PROPOSALS

Project Funding

Currently, the Advisory Council cannot predict the amount of funding provided by the State Legislature or earned through license plate sales. **Be advised that these grants are competitive; we usually have more applicants than we can fund.**

An invoice is required for payment, and the report and payment schedule will be specified in the project's contract. **No subsequent contracts to an individual or organization will be awarded until a progress or final report from any previous grant is submitted.** Details on reporting and invoicing requirements and deadlines will be provided to successful applicants. A final report (including receipts) or final report is required upon completion of project.

Proposals developed jointly by individuals, groups or institutions must specify one individual, group or institution as the primary contact. Progress reports and final reports will be expected from, and contract payments made to, the designated contact.

Who May Submit Proposals

All formally organized clubs or organizations in West Virginia, persons affiliated with state or private colleges, universities, school systems, or other educational facilities; industry, research and other profit or non-profit organizations; federal, state or local governmental agencies; and private individuals are eligible to submit proposals. **Organizations or individuals that had projects selected in previous years are eligible to submit project proposals to the Advisory Council for consideration as long as past projects have been successfully completed and a final or progress report submitted.** Full time DNR employees may not apply for funding.

Research Project proposals by colleges and universities or individual qualified researchers will qualify under a special category and will not be in competition with Cooperative Project proposals.

When to Submit Proposals

Projects must be submitted during the period of May 1 to October 1. **No projects post-marked after October 1 will be considered.** In December, WDP staff, with input from the Wildlife Diversity Citizens Advisory Council and the Chief of the Wildlife Resources Section will review projects submitted

and select projects based on priority, quality and adherence to guidelines. The Chief of the Wildlife Resource Section will make final selections in January. All organizations that submit proposals will be notified in February on acceptance or nonacceptance of their project for funding. Those not accepted will receive an explanation and tips on improving their proposal, if applicable.

Project Completion and Inspection

Final reports for completed projects must be submitted one year from July 1 of the funding year to the Research/Cooperative Projects Coordinator, P.O. Box 67, Elkins, WV 26241. This report shall include a narrative (abstract, introduction, methods, results and discussion) and/or pictorial account of the completed project; documentation of accounts payable in the form of receipts, invoices, checks and mileage records, and a financial statement listing actual expenditures with zero balance or unspent monies to be returned to the Division of Natural Resources. These accounting practices are necessary since all projects funded by the **WDP** are subject to a state audit.

The Advisory Council encourages projects limited to one year. Requests for extensions to ongoing projects must be submitted at the same time and in the same format as new projects, and will compete with them for funds available in that year.

Project Recognition

A small sign (if applicable) to be supplied by the **WDP**, will be erected on each project site acknowledging that the project was funded by the Wildlife Diversity Program.

Research Projects Supported

Projects must benefit the state's nongame wildlife or botanical resources through some aspect of scientific research. Projects that address the population status or natural history of a species and/or involve the classification and documentation of ecological communities that we have a significant interest in, will receive the highest priority. Some priority areas of the state that need surveyed include the far eastern panhandle counties due to accelerated development. A list of specific projects of priority have been listed in the booklet.

Applicants are encouraged to consider using wildlife management areas and other state-managed lands as potential sites, if appropriate to the project design. Private property may qualify if a wildlife or plant species is in need of study (see list below), but a written agreement to insure the life of the project and permission of the landowner must be made. When using DNR Wildlife Management Areas, the researcher must contact the appropriate district biologist to discuss the intent of the study, any need for assistance, and disclosure of any results. A list of research projects of priority follows:

Plant Species

Information is needed primarily on species occurrence and distribution.

<i>Allium cernuum</i> var. <i>Cernuum</i>	wild onion	<i>Allium oxyphilum</i>	nodding wild onion
<i>Ampelopsis brevipedunculata</i>	porcelain berry	<i>Betula papyrifera</i> var. <i>cordifolia</i>	mountain paper birch
<i>Betula pubescens</i> ssp. <i>Pubescens</i>	European white birch, down birch	<i>Carex abscondita</i>	sedge
<i>Carex albolutescens</i>	sedge	<i>Carex appalachica</i>	sedge
<i>Carex arctata</i>	sedge	<i>Carex atlantica</i> ssp. <i>atlantica</i>	sedge
<i>Carex caroliniana</i>	Carolina sedge	<i>Carex deflexa</i>	sedge
<i>Carex hirtifolia</i>	sedge	<i>Carex longii</i>	sedge
<i>Carex lucorum</i> var. <i>Austrolucorum</i>	sedge	<i>Carex lupuliformis</i>	sedge
<i>Carex pellita</i>	sedge	<i>Carex seorsa</i>	sedge
<i>Carex sterili</i>	dioecious sedge	<i>Carex texensis</i>	sedge
<i>Carex tuckermanii</i>	sedge	<i>Carex typhina</i>	sedge
<i>Carex xerantica</i>	sedge	<i>Clintonia alleghaniensi</i>	Harned's swamp
<i>clintonia</i>			
<i>Corallorrhiza bentleyi</i>	Bentley's coralroot	<i>Gymnocarpium appalachianum</i>	Appalachian oak fern
<i>Huchera alba</i>	White-flowered alumroot	<i>Hypericum adpressum</i>	
<i>Hypericum ascyron</i>	St. John's-wort	<i>Hypericum boreal</i>	St. John's-wort
<i>Hypericum canadense</i>		<i>Lemna perpusilla</i>	duckweed
<i>Liatris scariosa</i> var. <i>Nieuwlandii</i>	New England blazing star	<i>Liatris secunda</i>	
<i>Liatris spherioidea</i>		<i>Liatris turgida</i>	Appalachian blazing star
<i>Lygodium palmatum</i>	climbing fern	<i>Malaxis bayardii</i>	Bayard Long's adder's mouth
<i>Monotropsis odorata</i>	sweet pinesap		
<i>Potamogeton amplifolius</i>	large-leaved pondweed	<i>Potamogeton gramineus</i>	grassy pondweed
<i>Potamogeton oakensianus</i>	longleaf pondweed	<i>Potamogeton tennesseensis</i>	Tennessee pondweed
<i>Pycnanthemum clinopodioides</i>	basil mountain-mint	<i>Pycnanthemum montanum</i>	thin-leaved mountain-mint
<i>Pycnanthemum muticum</i>	blunt mountain-mint	<i>Pycnanthemum pycnanthemoides</i>	southern mountain-mint
<i>Pycnanthemum pycnanthemoides</i> var. <i>viridifolium</i>	green-leaved mountain-mint		
<i>Pycnanthemum tenuifolium</i>	slender-leaved mountain-mint	<i>Pycnanthemum torrei</i>	Torrey's mountain-mint
<i>Pycnanthemum verticillatum</i> var. <i>Pilosum</i>	hairy mountain-mint		
<i>Rhododendron viscosum</i>	swamp honeysuckle	<i>Saxifraga careyana</i>	Carey's saxifrage
<i>Saxifraga caroliniana</i>	Carolina saxifrage	<i>Scirpus cespitosus</i>	
<i>Scirpus georgianus</i>	bulrush	<i>Scirpus hattorianus</i>	
<i>Scirpus pungens</i>		<i>Scirpus smithii</i>	bluntscale bulrush
<i>Scirpus torreyi</i>	bulrush	<i>Scleria oligantha</i>	
<i>Scleria pauciflora</i>	nutrush	<i>Scleria reticularis</i>	
<i>Scutellaria elliptica</i> var. <i>hirsuta</i>	hairy skullcap		
<i>Scutellaria incana</i> var. <i>punctata</i>	downy skullcap	<i>Scutellaria ovata</i> ssp. <i>ovata</i>	heart-leaved skullcap
<i>Scutellaria ovata</i> ssp. <i>Rugosa</i>	heart-leaved skullcap	<i>Scutellaria saxatilis</i>	rock skullcap
<i>Silene virginica</i> var. <i>robusta</i>	fire pink	<i>Stachys aspera</i>	rough hedge-nettle
<i>Stachys eplingii</i>	Pling's hedge-nettle	<i>Stachys germanica</i>	European hedge-nettle
<i>Stachys hispida</i>	smooth hedge-nettle	<i>Stachys nuttallii</i>	Nuttall's hedge-nettle
<i>Stachys pilosa</i>	marsh woundwort	<i>Trifolium reflexum</i>	buffalo clover
<i>Trillium pusillum</i>	dwarf trillium	<i>Trillium sulcatum</i>	sulcate ill-scented trillium
<i>Viola appalachiensis</i>	Appalachian blue violet	<i>Viola missouriensis</i>	
<i>Viola subsinuata</i>		<i>Viola ×brauniae</i>	
<i>Viola ×eclipes</i>			

Taxa In Need of Systematic Analysis or Determination of Vouchers at Herbaria

<i>Allium cernuum</i> var. <i>cernuum</i>	wild onion	<i>Allium oxyphilum</i>	nodding wild onion
<i>Aster borealis</i>	rushlike aster	<i>Aster laevis</i>	smooth aster
<i>Aster laevis</i> var. <i>Concinnus</i>	narrow-leaved smooth aster	<i>Betula papyrifera</i> var. <i>cordifolia</i>	mountain paper birch
<i>Betula pubescens</i> ssp. <i>Pubescens</i>	European white birch, down birch		
<i>Botrychium biternatum</i>			
<i>Botrychium lanceolatum</i> var. <i>Angustisegmentum</i>	lanceolate grapefern		
<i>Botrychium multifidum</i>		<i>Botrychium oneidense</i>	bluntlobe grapefern
<i>Carex abscondita</i>	sedge	<i>Carex longii</i>	
<i>Carex lucorum</i> var. <i>austrolucorum</i>	sedge	<i>Carex lupuliformis</i>	sedge
<i>Carex seorsa</i>	sedge	<i>Carex texensis</i>	sedge
<i>Carex tuckermanii</i>	sedge	<i>Carex typhina</i>	sedge
<i>Carex xerantica</i>	sedge	<i>Clintonia alleghaniensis</i>	Harned's swamp clintonia
<i>Gymnocarpium appalachianum</i>	Appalachian oak fern	<i>Heuchera alba</i>	white-flowered alumroot
<i>Hypericum adpressum</i>		<i>Hypericum ascyron</i>	St. John's-wort
<i>Hypericum boreale</i>	St. John's-wort	<i>Liatris scariosa</i> var. <i>nieuwlandii</i>	New England blazing star
<i>Liatris secunda</i>		<i>Liatris spherioidea</i>	
<i>Potamogeton amplifolius</i>	large-leaved pondweed	<i>Potamogeton gramineus</i>	grassy pondweed
<i>Potamogeton tennesseensis</i>	Tennessee pondweed	<i>Potamogeton</i> × <i>argutulus</i>	
<i>Pycnanthemum clinopodioides</i>	basil mountain-mint	<i>Pycnanthemum montanum</i>	thin-leaved mountain-mint
<i>Pycnanthemum pycnanthemoides</i> var. <i>viridifolium</i>	green-leaved mountain-mint	<i>Pycnanthemum tenuifolium</i>	slender-leaved mountain-mint
<i>Pycnanthemum torrei</i>	Torrey's mountain-mint	<i>Saxifraga careyana</i>	Carey's saxifrage
<i>Pycnanthemum verticillatum</i> var. <i>pilosum</i>	hairy mountain-mint	<i>Scirpus cespitosus</i>	
<i>Saxifraga caroliniana</i>	Carolina saxifrage	<i>Scirpus hattorianus</i>	
<i>Scirpus georgianus</i>	bulrush	<i>Scirpus smithii</i>	bluntscale bulrush
<i>Scirpus pungens</i>		<i>Scleria oligantha</i>	
<i>Scirpus torreyi</i>	bulrush	<i>Scleria reticularis</i>	
<i>Scleria pauciflora</i>	nutrush	<i>Scutellaria incana</i> var. <i>punctata</i>	downy skullcap
<i>Scutellaria elliptica</i> var. <i>hirsuta</i>	hairy skullcap	<i>Scutellaria ovata</i> ssp. <i>Virginiana</i>	heart-leaved skullcap
<i>Scutellaria ovata</i> ssp. <i>rugosa</i>	heart-leaved skullcap	<i>Silene virginica</i> var. <i>robusta</i>	fire pink
<i>Scutellaria saxatilis</i>	rock skullcap	<i>Stachys eplingii</i>	Epling's hedge-nettle
<i>Stachys aspera</i>	rough hedge-nettle		
<i>Stachys germanica</i>	European hedge-nettle	<i>Stachys nuttallii</i>	Nuttall's hedge-nettle
<i>Stachys hispida</i>	smooth hedge-nettle	<i>Viola pubescens</i> var. <i>pubescens</i>	smooth yellow violet
<i>Stachys pilosa</i>	marsh woundwort	<i>Viola</i> × <i>brauniae</i>	
<i>Viola subsinuata</i>			
<i>Viola</i> × <i>eclipses</i>			

Taxa In Need of Life History and Ecology Studies

<i>Ptilimnium fluviatile</i>	harperella (LE)	<i>Aconitum reclinatum</i>
<i>Marshallia grandiflora</i>	Barbara's buttons	<i>Phlox buckleyi</i>

Other Plant Studies Needed

- A vegetative key to Violets (*Viola* spp.) in West Virginia
- Analysis of pre-settlement vegetation of West Virginia

Vertebrate Species

Information is needed primarily on species distribution and life history aspects.

* projects of high priority

Federally Threatened and Endangered Vertebrate Species

Gray Bat	<i>Myotis grisescens</i>	Indiana Bat	<i>Myotis sodalis</i>
Virginia Big-eared Bat	<i>Plecotus townsendii virginianus</i>	Cheat Mountain Salamander	<i>Plethodon nettingi</i>
Northern Flying Squirrel	<i>Glaucomys sabrinus fuscus</i>	Bald Eagle	<i>Haliaeetus leucocephalus</i>

Species of Concern:

Mammals

Rafinesque's Big-eared Bat*	<i>Plecotus rafinesquii</i>	Appalachian Cottontail	<i>Sylvilagus obscurus</i>
Rock Vole*	<i>Microtus chrotorrhinus carolinensis</i>	Southern Pygmy Shrew	<i>Sorex hoyi winnemana</i>
Allegheny Woodrat*	<i>Neotoma magister</i>	Southern Water Shrew*	<i>Sorex palustris punctulatus</i> — distribution study
Least Shrew*	<i>Cryptotis parva</i>	Long-tailed Shrew	<i>Sorex dispar</i>
Southeastern Shrew	<i>Sorex longirostris</i>	Small-footed Myotis*	<i>Myotis leibii</i>
Star-nosed Mole	<i>Condylura cristata</i>	Eastern Mole	<i>Scalopus aquaticus</i>
Prairie Vole	<i>Microtus ochrogaster</i>	Eastern Harvest Mouse*	<i>Reithrodontomys humulis</i>
Golden Mouse*	<i>Ochrotomys nuttalli</i>	Meadow Jumping Mouse	<i>Zapus hudsonius</i>
Least Weasel	<i>Mustela nivalis</i>	Eastern Spotted Skunk*	<i>Spilogale putorius</i>

Birds

Northern Goshawk*	<i>Accipiter gentilis</i>	Peregrine Falcon	<i>Falco peregrinus</i>
Barn-Owl*	<i>Tyto alba</i>	Long-eared Owl	<i>Asio otus</i>
Northern Saw-whet Owl*			
Caprimulgid surveys:			
Common Nighthawk	<i>Chordeiles minor</i>	Whip-poor-will	<i>Caprimulgus vociferus</i>
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>		
Olive-sided Flycatcher	<i>Contopus borealis</i>		
Willow and Alder Flycatchers	<i>Empidonax trailii</i> and <i>Empidonax alnorum</i>	(Habitat competition/exclusion)	
Loggerhead Shrike*	<i>Lanius ludovicianus migrans</i>	Bewick's Wren*	<i>Thryomanes bewickii altus</i>
Swainson's Thrush	<i>Catharus ustulatus</i>	Golden-winged Warbler	<i>Vermivora chrysoptera</i>
Prairie Warbler	<i>Dendroica discolor</i>	Cerulean Warbler	<i>Dendroica cerulea</i>
Swainson's Warbler	<i>Limnithlypis swainsonii</i>	Northern Waterthrush	<i>Seiurus noveboracensis</i>
Henslow's Sparrow*	<i>Ammodramus henslowii</i>	Bobolink	<i>Dolichonyx oryzivorus</i>

Habitats (species dependent upon the habitat):

High elevation spruce-fir forest

High and low elevation wetland habitats

(Esp. Rails, Bitterns, Herons) Rallus sp., Family Ardeidae

Grasslands and high elevation grass balds

Amphibians

Streamside Salamander	<i>Ambystoma barbouri</i>	Jefferson Salamander	<i>Ambystoma jeffersonianum</i>
Green Salamander	<i>Aneides aeneus</i>	Midland Mud Salamander*	<i>Pseudotriton montanus diasti</i>
Eastern Hellbender*	<i>Cryptobranchus alleganiensis</i>	Black-belly Salamander	<i>Desmognathus quadramaculatus</i>
Black Mountain Salamander	<i>Desmognathus welteri</i>	Cave Salamander	<i>Eurycea lucifuga</i>
Cow Knob Salamander*	<i>Plethodon punctatus</i>	Northern Red Salamander	<i>Pseudotriton ruber ruber</i>
Shenandoah Mountain Salamander	<i>Plethodon virginia</i>	Upland Chorus Frog*	<i>Pseudacris triseriata feriarum</i>
Northern Cricket Frog	<i>Acris crepitans crepitans</i>	Northern Leopard Frog	<i>Rana pipiens</i>

Reptiles

Midland Smooth Softshell*	<i>Apalone mutica mutica</i>	Spotted Turtle	<i>Clemmys guttata</i>
Wood Turtle	<i>Clemmys insculpta</i>	Northern Map Turtle*	<i>Graptemys geographica</i>
River Cooter	<i>Pseudemys concinna</i>	Northern Red-Bellied Cooter*	<i>Pseudemys rubriventris</i>
Red-eared Turtle	<i>Trachemys scripta elegans</i>	Eastern Six-Lined Racerunner*	<i>Cnemidophorus sexlineatus</i>
Northern Coal Skink	<i>Eumeces anthracinus anthracinus</i>	Broad-headed Skink	<i>Eumeces laticeps</i>
Little Brown Skink	<i>Scincella lateralis</i>	Eastern Worm Snake	<i>Carphophis amoenus</i>
Timber Rattlesnake	<i>Crotalus horridus</i>	Corn snake	<i>Elaphe guttata guttata</i>
Eastern Hog-nosed Snake	<i>Heterodon platirhinos</i>	Eastern Kingsnake	<i>Lampropeltis getula getula</i>
Rough Green snake	<i>Opheodrys aestivus</i>	Northern Pine snake	<i>Pituophis melanoleucus melanoleucus</i>
Eastern Ribbon snake*	<i>Thamnophis sauritus</i>	Mountain Earth snake*	<i>Virginia valeriae pulchra</i>

Fish

Bigmouth Buffalo	<i>Ictiobus cyprinellus</i>	Hightion Carpsucker	<i>Carpionodes velifer</i>
Bluestone Sculpin*	<i>Cottus sp.</i>	Candy Darter*	<i>Etheostoma osburni</i>
Blue Sucker*	<i>Cycleptus elongatus</i>	Cheat Minnow*	<i>Rhinichthys bowersi</i>
Kanawha Minnow*	<i>Phenacobius teretulus</i>	Paddlefish*	<i>Polyodon spathula</i>
Crystal Darter*	<i>Ammocrypta asprella</i>	Eastern Sand Darter*	<i>Etheostoma pellucidum</i>
Longhead Darter*	<i>Percina macrocephala</i>	Allegheny Brook Lamprey*	<i>Ichthyomyzon greeleyi</i>
Silver Lamprey	<i>Ichthyomyzon unicuspis</i>	Mooneye	<i>Hiodon tergisus</i>
Grass Pickerel	<i>Esox americanus vermiculatus</i>	Redside Dace*	<i>Clinostomus elongatus</i>
Tonguetied Minnow	<i>Exoglossum laurae</i>	Bigmouth Chub	<i>Nocomis platyrhynchus</i>
Satinfin Shiner	<i>Notropis analostanus</i>	Popeye Shiner	<i>Notropis ariommus</i>
New River Shiner	<i>Notropis scabriceps</i>	Black Buffalo	<i>Ictiobus niger</i>
Mountain Madtom*	<i>Noturus eleutherus</i>	Northern Madtom*	<i>Noturus stigmosus</i>
Longfin Darter	<i>Etheostoma longimanum</i>	Spotted Darter*	<i>Etheostoma maculatum</i>
Appalachia Darter	<i>Percina gymnocephala</i>	Stripeback Darter	<i>Percina notogramma</i>
Slimy Sculpin*	<i>Cottus cognatus</i>		

Invertebrate Species

Crayfish: *Cambarus elkensis* is an endemic species to the Elk River drainage. To date there has been no natural history or genetic studies conducted. Several other crayfish species have very limited distributions in West Virginia as well (*Cambarus veteranus*, *Cambarus longulus*, *Cambarus nerterius*, *Orconectes limosus*) and are in danger due to reduced water quality. Also, information is needed to determine the status of two introduced species of crayfish (*Orconectes rusticus* and *O. virilis*) that are posing a great threat to our native crayfish. Therefore, any information on crayfish is greatly needed.

Mussels: Two priority species for distribution studies are *Alasmodonta marginata* and *Cyclonaias tuberculata*, which currently have limited ranges. Studies are also needed to answer various genetic questions concerning the possible lumping of *Lampsilis cardium*, *L. Carisosa*, and *L. Ovata* as one species and the separation of *L. Fasciola* into subspecies.

Butterflies and Moths: Several species of butterflies and moths may have been affected by past gypsy moth spraying. Previous sites need to be inventoried as well as locating new sites. Priority butterfly and moth species include:

<i>Pyrgus wyandot</i> (globally rare species)	Grizzled Skipper	<i>Callophrys irus</i>	Frosted Elf
<i>Erynnis lucilius</i>	Columbine Duskywing	<i>Euchloe olympia</i>	Olympia Marble
<i>Phyciodes selenis</i>	Northern Pearl Crescent	<i>Satyrrium idalia</i>	Regal Fritillary
<i>Fixsenia favonius ontario</i>	(Northern) Southern Hairstreak	<i>Colias interior</i>	Pink-edged Sulphur
<i>Brachionycha borealis</i>	(moth)	<i>Merolonche dolli</i>	(moth)
<i>Catocala herodias gerhardi</i>	(moth)		

Dragonflies and Damselflies: There is very limited information on this group of invertebrates in West Virginia. Statewide surveys need to be conducted to determine the status of all species of Odonata. This group is the number one priority for invertebrate surveys.

Cave Invertebrates: West Virginia is the home to many globally rare and endemic cave invertebrates, and many caves have not been inventoried since the early 1970's.

Non-species Specific Project Priority

- Survey Wildlife Management Areas
- Under-surveyed portions of WV such as the southwestern counties
- Rock outcrop/talus slope habitat
- Mountaintop removal habitat
- Update distribution maps for most species
- Areas rapidly being affected by development such as Berkeley, Morgan, and Jefferson counties.

Cooperative Projects Supported

Projects must benefit nongame wildlife or botanical resources in some aspect of education, conservation, species protection, habitat management or a combination of these categories. If the project involves a physical area, the area must be open to the general public. Applicants are also encouraged to consider using Wildlife Management Areas and other state-managed lands as potential sites, if appropriate to the project design. Examples of possible cooperative projects follows:

- 1) Develop educational trunks with a specific learning theme. (i.e. streams, ponds, etc)
- 2) Improve a stream by controlling bank erosion, litter and shelter for fish and other aquatic animals.
- 3) Develop and staff a booth at fairs and community gatherings promoting WV's nongame wildlife and botanical resources.
- 4) Construct watchtowers, viewing blinds etc. for wildlife studies.
- 5) Construct nest box trails for key bird species.
- 6) Design & develop wildlife demonstration areas such as hummingbird and butterfly gardens.
- 7) Annotated checklists of specific groups.
- 8) Warm season grasses and perennial wildflower meadows on degraded soils.

PREPARATION OF PROPOSALS

Proposals should clearly present the study's scientific value and its applicability to management of the nongame wildlife and botanical resources of West Virginia. **Applicants must use the form provided in order to be considered for funding.** Review proposals carefully to ensure that they are complete and contain all the necessary information. Any omissions are the responsibility of the applicant. The proposal will become part of the contract if the applicant is successful.

Two copies of your proposal are to be submitted. Each copy should be stapled in the upper left-hand corner, double spaced (except for the abstract), printed on one side of each page, and have the pages numbered. Any materials to be considered with the proposal must be attached to the individual copies of the proposal. Proposals must be arranged in the following standard order: cover letter, complete proposal (see outline below), budget and resume. The forms provided in the appendices may be copied as needed.

Proposal Outline

I. Receipt Notification Form (Appendix A)

II. Cover letter

III. Budget Summary (Appendix B)

IV. Proposal

- A. Title page
- B.. Proposal narrative (at least 2 pages)
 - 1) Introduction
 - 2) Objectives
 - 3) Study area (size, location and ownership)
 - 4) Methods
 - 5) Time schedule
 - 6) Literature cited
 - 7) Appendices

V. Budget

- A. Current/Pending Financial Support (Appendix C)
- B. Line-by-line Budget List (Appendix D)
- C. Budget Narrative (Appendix E)

VI. Biographical Sketches (Resumes)

VII. Vendor Registration

I. Receipt Notification Form (Appendix A)

Appendix A is the **Receipt Notification Form**. The applicant must complete the top portion of the form. Only one copy of the form is to be sent with each proposal. This form ensures prompt acknowledgment that a proposal has been received by the **WDP**. Later communications concerning your proposal should refer to the proposal number (which will be assigned by the **WDP** upon receipt of the proposal). Applicants may contact the **WDP** at (304) 637-0245 if the Receipt Notification Form is not acknowledged by October 15.

II. Cover Letter

The cover letter is the first and most important step in preparing your grant application. The cover letter should be no longer than two pages and should include the following items:

- Overall budget and justification for each budgeted item
- Your name, address, phone number and position
- State if you have received previous research or cooperative projects grants
- State the amount of funds requested from **WDP**
- If you received a grant during the previous year, you must submit at minimum an interim report with this proposal.

III. Budget Summary (Appendix B)

- List the requested dollar amount from the **WDP**.
- If applicable, list the estimated dollar expenditures from the sponsoring organization. Do not include costs of donated goods or services.
- If applicable, list the estimated dollar expenditures from others. Do not include costs of donated goods or services.
- If applicable, list the estimated dollar expenditure donated in the form of goods or services from the organization.
- If applicable, list the estimated dollar expenditure donated in the form of goods or services from others.

IV. Research Proposal (See page 14 for Cooperative Projects Proposal)

A. Title Page

Title page should include the title of the study, the principal investigator's name, assisting researchers, the institution supporting the work, telephone number(s), and the date submitted.

B. Abstract

Include a brief summary of the proposal contents including the study's propose, methods, expected results and applicability of results. The abstract should be concise and no more than a few paragraphs.

C. Proposal Narrative

The narrative must be double-spaced and at least two pages. It should include statements summarizing the project's: objectives, study area (size, location, ownership, etc.), methods and schedule of the entire duration of project, expected results and significance or value to the state's nongame wildlife and/or botanical resources. A literature cited section (if applicable) should also be included at the end of the narrative. The project narrative is the main body of the proposal and should present a detailed outline of the proposed project. In detail, the narrative should contain the following sections:

1) *Introduction*--This section should state the background and justification of the project; the project's relevance, significance, and/or value to the management and conservation of nongame wildlife and botanical resources in West Virginia; the expected results or benefits if project objectives are met; and a review of previous or similar work, including the relationship of the proposed project to such work.

2) *Objectives*--This section should state the specific objectives of the proposed project. These should include the particular questions to be addressed or answered, the measurable increases in knowledge expected, and any tangible products to be produced.

3) *Study Area*--Please provide a description of the study site, including county and nearest town. Also describe the site conditions. If the study site is on government-owned property (e.g. a State Park, a Wildlife Management Area, or National Forest, etc.) the researcher must have written agreement from the person in charge of the area. In addition, if the study is to be conducted on private land, the researcher must have written permission from the landowner.

4) *Methods*--This section should describe the plan of proposed work. Include all methods and procedures of the project design. This section also should contain detailed descriptions of data analyses, techniques and procedures.

5) *Time Schedule*--This section should provide a narrative, and may also include an illustrative table or graph, specifying the timing of tasks in the proposed project such as the beginning and completion dates for the project, study site selection, data collection, data analyses and preparation of the final report. The schedule should detail what specific objectives will be initiated, conducted or completed and what products will be provided. The project schedule should be as detailed as possible: it will serve as a yardstick against which **WDP** staff will measure progress of the ongoing project and determine whether the project is meeting its contract objectives. Note: sufficient time and funds must be built into the schedule and budget to accommodate preparation of the final report following completion of fieldwork for the project.

6) *Literature Cited*--Provide a list of the literature cited in the proposal.

7) *Appendices*--Appendices may be used to present data, reprints, schematic drawings or other pertinent material to be considered in the proposal evaluation.

IV. Cooperative Proposal

A. Title Page

Title page should include the title of the study, the principal investigator's name, assisting researchers, the institution supporting the work, telephone number(s), and the date submitted.

B. Proposal Narrative

1) *Introduction*--This section should state the background and justification of the project; the project's relevance, significance, and/or value to the management and conservation of nongame wildlife and botanical resources in West Virginia; the expected results or benefits if project objectives are met; and a review of previous or similar work, including the relationship of the proposed project to such work. Proposals for education projects should define the concepts, values, and other information to be presented and explain how the materials and methods chosen will help the **WDP** achieve its conservation education goals.

2) *Objectives*--This section should state the specific objectives of the proposed project. These should include the particular questions to be addressed or answered, the measurable increases in knowledge expected, and any tangible products to be produced. Proposals for education projects should specify the intended grade level, age level, group size and other relevant descriptors of the target audience(s) for whom the program or materials are designed.

3) *Methods*--This section should describe the plan of proposed work, including the education strategies to be undertaken, and a detailed description of the methods undertaken, where applicable. Written permission must be obtained from the appropriate individual if the project area is on state, federal, county, or private lands. If developing or enhancing an area for nongame wildlife (including trails) or botanical resources, please provide the following information **where applicable**:

- a . Map of area to be developed (attach a separate sheet). Please include the following items for both the existing area and what you plan to add to the area:
 - Size of area
 - Public access sites
 - Roads
 - Trails (include length of trail, where interpretive signs are to be placed, any bird feeders, blinds, etc)
 - Water (rivers, streams, runs, ponds, lakes, marshy areas, etc.)
 - Trees (evergreens and deciduous)
 - Shrubs
 - Ground cover (eg. vines, grasses, flowers, etc)
- b. Proposed numbers and kinds of the following to be planted:
 - Trees (eg. 5 black walnut, etc.):
 - Shrubs
 - Ground cover (eg. vines, grasses, flowers, etc)
 - Seed list (lbs/acre)
- c. Proposed number of bird houses, for what kinds of birds (eg. 24 bluebird houses), and where they are to be placed (eg. On poles, trees-at what height, etc.)
- d. Proposed number and types of bird feeders, and where they are to be placed.
- e. Who will monitor and maintain bird houses and feeders, and how often?

Proposals for education projects should indicate provisions for technical review of materials for accuracy, recommendations for evaluation techniques, and suggested strategies for product dissemination. Description of methods and procedures must be of sufficient detail to enable **WDP** staff and the Advisory Council to evaluate the project's technical merit and potential to meet the stated objectives. If a publication is being considered, please contact the **WDP** for more specific guidelines (304) 637-0245.

4. *Project Schedule*--This section must provide a narrative, and may also include an illustrative table or graph, specifying the timing of tasks in the proposed project such as the beginning and completion dates for the project, study site selection, data collection, data analysis, or phases of construction and preparation of the final report. The schedule should detail what specific objective will be initiated, conducted or completed and what receivable goods will be provided. The project schedule should be as detailed as possible; it will serve as a yardstick against which **WDP** staff will measure progress of the ongoing project and determine whether the project is meeting its contract objectives. Note: sufficient time and funds must be built into the schedule and budget to accommodate preparation of the final report following completion of fieldwork for the project.

Also include with the project schedule estimated work days on the project.

- If applicable, list the total work days donated by members of the organization on the project. Example, if 10 members are planning to work 10 days each, the total effort in work days in $(10 \times 10) = 100$ days.
- If applicable, list the total work days donated by persons other than organization members.
- If applicable, list total work days of estimated effort.

V. Budget (For both Research and Cooperative Projects)

A. Current and/or Pending Financial Support--**Appendix C** is a list of other funding sources to be provided for the proposed work from sources other than the WDP. (This will further explain the Budget Summary in Appendix B.) The statement should list type and sources of support, as well as amounts. If matching funds are available for the proposed project, this should be clearly indicated. In addition, in-kind services must be documented. If applicable, list the estimated dollar expenditure donated in the form of goods or services from the organization, or others.

B. Itemized Budget --**Appendix D** is a line-by-line budget sheet that is required for proposal evaluation.

- Per diem: When requesting per diem, please list hourly wage, gas mileage, lodging, and food as separate rates. Do not lump these items as one total. The maximum allowed for travel is \$.365 per mile. **Please consider the least expensive options when requesting funds for food and lodging.** For example, camping might be considered instead of a motel where and when appropriate.
- Equipment: Please list all equipment needs in Appendix D. Requests for equipment with a usable life expectancy over one year and costing over \$200.00 must be justified in the budget narrative. **DNR personnel reserves the discretion over whether any equipment will be returned to DNR for use in future projects. Such requests for equipment return will be stated in the project acceptance letter.** Requested equipment must be essential to conduct the proposed project, and must not be otherwise available from the applicant or the institution. General-purpose office equipment will not normally be considered for support. Major equipment items should be requested only if equipment requirements are unique for the proposed project. Vehicles, boats, motors, computers and other major equipment should be rented. Please include any of the following additional needs in the itemized budget:
- Equipment Operation: Funds may be requested for mileage, anticipated equipment repairs and other costs to operate equipment. Mileage and other costs should be estimated and justified.
- Equipment Rental: Requests for equipment rental must include the type of equipment, its intended use, rental rate and length of time needed.
- Materials and Supplies: Funds may be requested for required expendable materials and supplies not otherwise available from the applicant or the institution such as wood, nails, collection jars, bait, chemicals, data sheets, etc. Costs for materials and supplies should be itemized in the budget narrative.

- Computer/Data Processing: Funds may be requested for computer services if the need for such services are required. A statement of established computer service rates must be included.
- Other Costs: Funds requested for costs that cannot be placed in one of the previous categories (e.g., laboratory services) should be listed with a brief description, and an itemized cost list should be included in the budget narrative.

C. Budget Narrative--The budget narrative fully describes and justifies requested funds for per diem (daily expenses), equipment, equipment operation and rental, materials and supplies (**Appendix E**).

Overhead for university or laboratory costs will not be paid and should not be included in the budget.

VI. Biographical Sketches (Resume)

The Project Director or Principal Investigator will submit a one or two page (maximum) vita. The vita should include educational background, work experience and a maximum of five publications published within the last five years.

Project directors must specifically state the qualifications, experience and available facilities that uniquely qualify them (or the institution) to conduct the proposed project. This statement is particularly important for proposals submitted from private institutions or private individuals.

VII. Vendor Registration

Before a purchase order can be issued or payment made to a Vendor, the West Virginia Code (§5A-3-12) requires all Vendors to have on file with the Purchasing Division a completed Vendor Registration & Disclosure Statement. A WV-1 Vendor Registration form will be provided if your proposal is selected for funding.

NOTE: If your study entails the collection of animals and plants, contact Barbara Sargent with the Natural Heritage Program at (304) 637-0245 to obtain a **Scientific Collecting Permit**. If your project involves National Forests, you will also need to obtain a permit from the managing agency for that area. A letter must be also be submitted to **WDP** from the managing agency, acknowledging that they fully support your project. This would also include State Parks, State Forests or other public or private lands. The letter should be included with your proposal or sent before the proposal deadline.

EVALUATION OF PROPOSALS

Those that are accepted into the program will be immediately notified with an acceptance letter from **WDP**. Complete proposals are sent to at least three Advisory Council members who have research interests or expertise in the general area addressed by the proposal. The primary responsibility of the Advisory Council is to evaluate the proposal's technical merit and the capabilities of the proposed project personnel and their institution to meet the project objectives.

Another responsibility of the Advisory Council is to evaluate proposals for their relevance to the overall goals and objectives of West Virginia's **WDP**. Criteria used to evaluate the proposals are as follows:

- Fulfillment of one or more of the **WDP** objectives. (See page 2)
- Quality of proposal preparation; must include all items requested and in the format outline requested.
- Does the proposal include enough details or information relative to the proposal?
- Scientific Merit of proposal.
- Best use of available funds (How carefully have the applicants controlled the costs of the project?)
- Can the proposal be accomplished as stated? Is the time-line reasonable?

RESEARCH PROPOSALS

- Research data should be prepared in a form that can be integrated into the Heritage database. This would include the submission of a database or spreadsheet used in the project.
- Species data needs to be identified on maps, either USGS Quads or preferably using GPS coordinates. Sites of threatened, endangered or rare species should be identified on Heritage Field data sheets, which will be sent to the recipient with the acceptance letter.
- Can the information obtained from the study be useful in managing the species being studied?
- Has the applicant demonstrated that she/he is qualified to perform the work?

COOPERATIVE PROPOSALS

- Do the goals or product of this proposal benefit nongame wildlife or plant resources in some aspect of education (instills understanding and actions towards stewardship or environmental ethic), conservation, species protection, habitat enhancement and/or management or a combination of these?
- Is there a long-lasting commitment to the project? Could the accomplishment of this project result in long-lasting results of the goals listed above?
- Will this project be of benefit statewide, or locally? Will the project affect others in addition to the group doing the project?

The Advisory Council makes recommendations to the Chief of the Wildlife Resources Section and **WDP** staff. As part of their review, **WDP** staff consider the past performance of the applicant on any previously funded contracted projects or grants. **WDP** staff will incorporate their own comments with the Advisory Council, to make recommendations to the Section Chief for final funding selection.

REPORTING GUIDELINES

See Project Completion and Inspection (page 4). Potential applicants should be aware that the **WDP** expects such reports, especially the final report, to be carefully prepared, complete and submitted on time according to the schedule agreed upon in the contract. Reminder: sufficient time and funds must be built into the project schedule and budget to accommodate preparation of an acceptable final report prior to contract termination.

SUBMISSION

All applications for Research Projects must be mailed and postmarked by October 1. **NO proposals postmarked after October 1, 2002 will be accepted.** Mail proposals to the Research/Cooperative Projects Director, WVDNR, P.O. Box 67, Elkins, WV 26241.

If you wish to receive additional copies of the Application Booklet, or know of another clubs/organizations or individuals interested in the program, please write to the above address. An electronic version is also available. Contact Joy Cutright by e-mail at jcutright@dnr.state.wv.us

If there are any questions about the application process, or if you need help with the development of your project, you can write or phone the Grants Coordinator at the Elkins Office (304/637-0245, fax 304/637-0250). Your suggestions and/or comments on the Application Booklet will be appreciated. Thank you and good luck.

**PLEASE COPY THE APPENDICES ON THE FOLLOWING PAGES FOR
INCLUSION IN YOUR PROPOSAL.**

APPENDIX A

Wildlife Diversity Program (WDP)

Research or Cooperative Projects

Receipt Notification Form

Project Title:

Project Director (Name, title, and address)

Date Received

Proposal Number

APPENDIX B

Wildlife Diversity Program (WDP)

Research or Cooperative Projects

Budget Summary

<u>Estimated Dollar Amount:</u>	WDP Use
Amount Requested from WDP _____	_____
Amount from Your Organization _____	_____
Amount From Others _____	_____
TOTAL COST _____	_____
<u>Estimated Amount in Goods or Services:</u>	
Amount from Your Organization _____	_____
Amount from Others _____	_____
TOTAL GOODS & SERVICES _____	_____

Wildlife Diversity Program (WDP)
Research or Cooperative Projects
Current/Pending Financial & In-kind Support

Type of	In-kind	Amount
	Total =	

22

APPENDIX D

Wildlife Diversity Program (WDP) Research or Cooperative Projects **Itemized Budget**

	Cost
Equipment	
Per Diem	
Food	
Lodging	
Travel (Mileage \$.365/mile)	
Hourly rate (if applicable)	
Materials and Supplies	
Total =	

*Budget items should be fully justified in Budget Narrative

APPENDIX E

Wildlife Diversity Program (WDP)

Research or Cooperative Projects

Budget Narrative

Project Title:

Justification of requested funds (especially equipment):

